

Generate Collection

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Search Results - Record(s) 1 through 1 of 1 returned.

1. Document ID: CA 2030291 C, EP 432763 A, AU 9068056 A, CA 2030291 A, ZA 9009782 A, US 5116662 A, AU 636937 B, JP 06184897 A, EP 432763 B1, DE 69021519 E, ES 2076284 T3, PH 27834 A, JP 2919980 B2, KR 168640 B1

L6: Entry 1 of 1

File: DWPI

May 1, 2001

DERWENT-ACC-NO: 1991-179609

DERWENT-WEEK: 200131

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TITLE: Non-rubbery composite for diapers, tissues, etc. - comprises two-dimensional elastic sheet and polypropylene-contg. necked material bonded at nonlinear points

INVENTOR: MORMAN, M T; NORMAN, M T

PRIORITY-DATA: 1989US-0451264 (December 15, 1989)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
CA 2030291 C	May 1, 2001	E	000	B32B005/04
EP 432763 A	June 19, 1991		000	
AU 9068056 A	June 20, 1991		000	
CA 2030291 A	June 16, 1991		000	
ZA 9009782 A	October 30, 1991		000	
US 5116662 A	May 26, 1992		015	B32B027/14
AU 636937 B	May 13, 1993		000	B32B027/12
JP <u>06184897</u> A	July 5, 1994		020	D04H001/50
EP 432763 B1	August 9, 1995	E	027	D04H001/56
DE 69021519 E	September 14, 1995		000	D04H001/56
ES 2076284 T3	November 1, 1995		000	D04H001/56
PH 27834 A	November 25, 1993		000	B32B027/14
JP 2919980 B2	July 19, 1999		019	D04H001/50
KR 168640 B1	January 15, 1999		000	B32B027/00

INT-CL (IPC): A47 K 7/00; A47 L 13/16; B29 D 0/00; B32 B 3/28; B32 B 5/04; B32 B 5/26; B32 B 7/04; B32 B 27/00; B32 B 27/12; B32 B 27/14; B32 B 31/16; C08 J 0/00; D01 G 25/00; D04 H 1/50; D04 H 1/56; D04 H 1/62; D04 H 13/00

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Clip Img	Image
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"06184897".DWPI.	1
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Search Results - Record(s) 1 through 2 of 2 returned.

☐ 1. Document ID: US 5683787 A

L7: Entry 1 of 2

File: USPT

Nov 4, 1997

US-PAT-NO: 5683787

DOCUMENT-IDENTIFIER: US 5683787 A

TITLE: Multilayered elastic sheet structure and process for producing a multilayered elastic sheet structure

DATE-ISSUED: November 4, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Boich; Heinz-Horst	Peine			DEX
Wehrle; Myrtha	Peine			DEX
Tamer; Attila A.	Schwalbach am Taunus			DEX
Coles; Peter	Kelkheim			DEX
Soon; See-Aun	Schwalbach am Taunus			DEX

US-CL-CURRENT: 428/198; 156/163, 156/229, 428/131, 428/152, 428/184, 428/317.9,
428/74, 428/77, 442/328, 604/385.24

ABSTRACT:

A multilayered elastic sheetlike structure and a process for producing it are described.

The sheetlike structure consists of at least one elastomeric layer of a homogeneous film/sheet and at least one inelastic fibre or filament layer which is connected to the elastomeric layer at mutually spaced-apart connection sites. Between the connection sites the fibre or filament layer is in folds when the elastomeric layer is in an untensioned or partially tensioned state and smooth when the elastomeric layer is in the completely tensioned state. The inelastic fibre or filament layer consists of an originally smooth, undrawn or partially drawn material which has been melted or adhered to the untensioned elastomeric layer at the connection sites and, after conjoint extension therewith, exhibits a persistent extension.

21 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Data](#) [Reference](#) [Sequences](#) [Attachments](#)[KWC](#) [Draw Desc](#) [Image](#)☐ 2. Document ID: US 5116662 A

L7: Entry 2 of 2

File: USPT

May 26, 1992

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Search Results - Record(s) 1 through 1 of 1 returned.

1. Document ID: FI 107594 B1, DE 4243012 A1, WO 9414607 A1, AU 9456922 A, NO 9502421 A, FI 9502983 A, EP 674581 A1, CZ 9501395 A3, EP 674581 B1, DE 59302850 G, ES 2089908 T3, JP 08504693 W, DE 4243012 C2, HU 72562 T, US 5683787 A, NO 302458 B1, CA 2150366 C, BR 9307673 A, HU 217315 B, CZ 286891 B6

L5: Entry 1 of 1

File: DWPI

Sep 14, 2001

DERWENT-ACC-NO: 1994-209540

DERWENT-WEEK: 200157

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TITLE: Multi-layered elastic surface construction - comprises at least one rubber-elastic layer of homogeneous film or foil and at least one fibre or filament inelastic layer joined to film or foil layer at spaced connecting points

INVENTOR: BOICH, H; WEHRLE, M ; COLES, P ; SOON, S ; TAMER, A A ; TAMER, A

PRIORITY-DATA: 1992DE-4243012 (December 18, 1992)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
FI 107594 B1	September 14, 2001		000	B32B005/24
DE 4243012 A1	June 23, 1994		008	B32B025/10
WO 9414607 A1	July 7, 1994	G	030	B32B005/24
AU 9456922 A	July 19, 1994		000	B32B005/24
NO 9502421 A	June 16, 1995		000	B32B005/24
FI 9502983 A	June 16, 1995		000	B32B000/00
EP 674581 A1	October 4, 1995	G	000	B32B005/24
CZ 9501395 A3	December 13, 1995		000	B32B005/24
EP 674581 B1	June 5, 1996	G	013	B32B005/24
DE 59302850 G	July 11, 1996		000	B32B005/24
ES 2089908 T3	October 1, 1996		000	B32B005/24
JP 08504693 W	May 21, 1996		023	B32B005/24
DE 4243012 C2	September 11, 1997		008	B32B025/10
HU 72562 T	May 28, 1996		000	B32B005/24
US 5683787 A	November 4, 1997		008	B32B009/00
NO 302458 B1	March 9, 1998		000	B32B005/24
CA 2150366 C	April 20, 1999	E	000	B32B005/04
BR 9307673 A	September 8, 1999		000	B32B005/24
HU 217315 B	December 28, 1999		000	B32B005/24
CZ 286891 B6	July 12, 2000		000	B32B005/24

CA 2150366 C INT-CL (IPC): A61F 13/46; B32B 0/00; B32B 3/24; B32B 3/28; B32B 5/04; B32B 5/24; B32B 7/02; B32B 7/04; B32B 7/14; B32B 9/00; B32B 25/10; B32B 31/08; D04H 13/00

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US-PAT-NO: 5116662

DOCUMENT-IDENTIFIER: US 5116662 A

TITLE: Multi-direction stretch composite elastic material

DATE-ISSUED: May 26, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Morman; Michael T.	Alpharetta	GA		

US-CL-CURRENT: 428/198; 428/152, 428/903, 428/913, 442/328

ABSTRACT:

The present invention provides a composite elastic material capable of stretching in at least two directions. The material is disclosed as having at least one elastic sheet and at least one necked material joined to the elastic sheet at least at three locations arranged in a nonlinear configuration, so that the necked web is gathered between at least two of those locations. Also disclosed is a method of producing a composite elastic material capable of stretching in at least two directions.

26 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

Full Title Citation Front Review Classification Date Reference Sequences Attachments

KMC Draw Desc Image

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"5683787"[USPT]	1
5683787S	0
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Search Results - Record(s) 1 through 4 of 4 returned.

☐ **1. Document ID: US 5939178 A**

L1: Entry 1 of 4

File: USPT

Aug 17, 1999

US-PAT-NO: 5939178

DOCUMENT-IDENTIFIER: US 5939178 A

TITLE: Process for producing a multilayered elastic sheetlike structure; as well as a multilayered elastic sheetlike structure

DATE-ISSUED: August 17, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Boich; Heinz-Horst	Peine			DEX

US-CL-CURRENT: 428/198, 156/163, 156/229, 428/131, 428/152, 428/184, 428/317.9,
428/74, 428/77, 442/328

ABSTRACT:

A process for producing a multilayered elastic sheetlike structure; and a multilayered elastic sheetlike structure are described.

The multilayered elastic sheetlike structure comprises at least one elastomeric layer of a film, a sheet or a fibrous structure and at least one layer of bonded, inelastic fibrous web connected to the elastomeric layer at permanent connection sites. The inelastic layer of fibrous web, prior to its connection with the elastomeric layer, is initially drawn, so that the fibers of the inelastic layer of fibrous web essentially are aligned in the direction of initial drawing and that the inelastic layer of fibrous web in the initially-drawn state is connected to the elastomeric layer.

25 Claims, 5 Drawing figures

Exemplary Claim Number: 11

Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw Desc	Image
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☐ **2. Document ID: US 5683787 A**

L1: Entry 2 of 4

File: USPT

Nov 4, 1997

US-PAT-NO: 5683787

DOCUMENT-IDENTIFIER: US 5683787 A

TITLE: Multilayered elastic sheet structure and process for producing a multilayered elastic sheet structure

DATE-ISSUED: November 4, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Boich; Heinz-Horst	Peine			DEX
Wehrle; Myrtha	Peine			DEX
Tamer; Attila A.	Schwalbach am Taunus			DEX
Coles; Peter	Kelkheim			DEX
Soon; See-Aun	Schwalbach am Taunus			DEX

US-CL-CURRENT: 428/198; 156/163, 156/229, 428/131, 428/152, 428/184, 428/317.9,
428/74, 428/77, 442/328, 604/385.24

ABSTRACT:

A multilayered elastic sheetlike structure and a process for producing it are described.

The sheetlike structure consists of at least one elastomeric layer of a homogeneous film/sheet and at least one inelastic fibre or filament layer which is connected to the elastomeric layer at mutually spaced-apart connection sites. Between the connection sites the fibre or filament layer is in folds when the elastomeric layer is in an untensioned or partially tensioned state and smooth when the elastomeric layer is in the completely tensioned state. The inelastic fibre or filament layer consists of an originally smooth, undrawn or partially drawn material which has been melted or adhered to the untensioned elastomeric layer at the connection sites and, after conjoint extension therewith, exhibits a persistent extension.

21 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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RWD	Draw Desc	Image
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☐ 3. Document ID: US 5615460 A

L1: Entry 3 of 4

File: USPT

Apr 1, 1997

US-PAT-NO: 5615460

DOCUMENT-IDENTIFIER: US 5615460 A

TITLE: Female component for refastenable fastening device having regions of differential extensibility

DATE-ISSUED: April 1, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weirich; David M.	West Chester	OH		
Allen; Patrick J.	Cincinnati	OH		

US-CL-CURRENT: 24/446; 24/447, 24/451, 604/391

ABSTRACT:

A female component for a refastenable fastening device having an elastomeric adhesive backing and a multiplicity of fibrous elements extending from the backing. The female fastening component is formed by a method comprising the steps of: providing a first lamina comprising an elastomeric, pressure-sensitive adhesive film having a first

adhesive surface and a second adhesive surface opposed to said first adhesive surface, a relaxed orientation, an elongated orientation and preferably at least two regions of differential elongation; stretching said first lamina from said relaxed orientation to said elongated orientation; contacting a second lamina comprising a nonwoven web with said first surface of said first lamina in said elongated orientation, thereby directly joining said second lamina and said first lamina to form a laminate; and relaxing said first lamina such that said second lamina is shirred to form catching regions capable of entangling the hooks of a complementary male fastening component.

23 Claims, 15 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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RunC	Draw Desc	Image
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4. Document ID: US 4107364 A

L1: Entry 4 of 4

File: USPT

Aug 15, 1978

US-PAT-NO: 4107364
DOCUMENT-IDENTIFIER: US 4107364 A

TITLE: Random laid bonded continuous filament cloth

DATE-ISSUED: August 15, 1978

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sisson; James Bryant	Hamilton	OH		

US-CL-CURRENT: 428/196; 428/152, 428/198, 442/329, 442/409

ABSTRACT:

This application discloses a cloth structure comprising preferably generally continuous melt spun organic polymer filaments dispersed and laid to provide frequent random filament crossings, subsequently bonded to form a coherent cloth. In accordance with one aspect of the disclosed invention, a stream of filaments is melt spun through a linear spinnerette having a plurality of spinnerette orifices or rows of orifices offset to enable interleaving of the extruded filaments into a planar single row stream of filaments which are mechanically drawn to textile denier while still arranged in such single row stream on a draw roll having its surface in alignment with the axis of the spinnerette and then forwarded in such single row stream to a formation location closely coupled with a porous collection surface whereat the filaments are dispersed randomly or in directed formation onto the porous collection surface. In accordance with this aspect of the invention the controlled spinning, drawing and forwarding and the close coupling provide a precisely defined focus or divergence point for laydown of each filament in the stream and a limited and controlled excursion of each filament symmetrically about its focus. In accordance with another aspect of the disclosed invention at least some of the dispersed filaments are random laid to form an unbonded web on a porous woven fabric having generally uniform knuckle heights and the unbonded web comprised thereof is carried while still on the fabric and together therewith through a heated bonding nip to emboss the fabric knuckles into the web, providing spaced apart spot bond points and a textured surface to the bonded cloth produced thereby. In accordance with yet another aspect of the disclosed invention, there are provided at least two types of preferably generally continuous filaments, at least one of which is relatively elastomeric, at least one of which is generally uniformly dispersed and random laid to provide frequent random filament crossings, at least some of which are bonded, preferably autogenously, to form a coherent bonded cloth. In accordance with this aspect of the invention the fibers are selected to have differing stretch characteristics such that,

under a given common percent elongation, inelastic or permanent deformation will be produced in at least one fiber type in the cloth and elastic or non-permanent deformation will be produced in at least one other type of fiber in the cloth. In accordance with yet still another aspect of this invention, such a coherent bonded cloth containing at least one relatively elastomeric filament type and one elongatable but relatively non-elastic filament type is then mechanically worked after bonding, as by stretching, beyond the elastic limit of the non-elastic filaments followed by relaxation of the relatively elastomeric filaments to develop the cloth to a low modulus of elasticity in the direction or directions of stretch. Yet still another aspect of the disclosed invention is the production of bonded cloth by control of the extent of orientation and extent of drawdown of melt spun filaments. Other aspects of the disclosed invention are methods and apparatus for producing the bonded cloths hereof.

41 Claims, 10 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 7

Full Title Citation Front Review Classification Date Reference Sequences Attachments

RMC Draw Desc Image

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Term	Documents
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"5683787"[USPT]	1
5683787S	0
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L5 ANSWER 1 OF 1 WPIX (C) 2002 THOMSON DERWENT
 AN 1991-179609 [25] WPIX
 DNC C1991-077500
 TI Non-rubbery composite for diapers, tissues, etc. - comprises two-dimensional elastic sheet and polypropylene-contg. necked material bonded at nonlinear points.
 DC A32 A96 D22 F07 G03 P73
 IN MORMAN, M T; NORMAN, M T
 PA (KIMB) KIMBERLY CLARK CORP; (KIMB) KIMBERLY-CLARK WORLDWIDE INC
 CYC 21
 PI EP 432763 A 19910619 (199125)*
 R: AT BE CH DE ES FR GB GR IT LI LU NL SE
 AU 9068056 A 19910620 (199132)
 CA 2030291 A 19910616 (199135)
 ZA 9009782 A 19911030 (199148)
 US 5116662 A 19920526 (199224) 15p B32B027-14
 AU 636937 B 19930513 (199326) B32B027-12
 JP 06184897 A 19940705 (199431) 20p D04H001-50 <--
 EP 432763 B1 19950809 (199536) EN 27p D04H001-56
 R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
 DE 69021519 E 19950914 (199542) D04H001-56
 ES 2076284 T3 19951101 (199550) D04H001-56
 PH 27834 A 19931125 (199836) B32B027-14
 JP 2919980 B2 19990719 (199934) 19p D04H001-50
 KR 168640 B1 19990115 (200038) B32B027-00
 CA 2030291 C 20010501 (200131) EN B32B005-04
 ADT EP 432763 A EP 1990-123985 19901212; ZA 9009782 A ZA 1990-9782 19901205;
 US 5116662 A US 1989-451264 19891215; AU 636937 B AU 1990-68056 19901213;
 JP 06184897 A JP 1990-419322 19901214; EP 432763 B1 EP 1990-123985
 19901212; DE 69021519 E DE 1990-621519 19901212, EP 1990-123985 19901212;
 ES 2076284 T3 EP 1990-123985 19901212; PH 27834 A PH 1990-41731 19901214;
 JP 2919980 B2 JP 1990-419322 19901214; KR 168640 B1 KR 1990-20781
 19901214; CA 2030291 C CA 1990-2030291 19901119
 FDT AU 636937 B Previous Publ. AU 9068056; DE 69021519 E Based on EP 432763;
 ES 2076284 T3 Based on EP 432763; JP 2919980 B2 Previous Publ. JP 06184897
 PRAI US 1989-451264 19891215
 REP DE 3734963; EP 212284; EP 217032; EP 239080; WO 9003464
 IC ICM B32B005-04; B32B027-12; B32B027-14; D04H001-50; D04H001-56
 ICS B29D000-00; B32B003-28; B32B005-26; B32B007-04; B32B031-16;
 C08J000-00; D04H001-62; D04H013-00
 ICA A47K007-00; A47L013-16; B32B027-00; D01G025-00
 AB EP 432763 A UPAB: 19930928
 Pressure sensitive elastic material can be stretched in 2 or more directions, comprising an elastic sheet and a necked material joined non-linearly at 3 or more locations to it, with gathering between two or more of the locations.
 The method of mfr. is also claimed.
 The elastic sheet comprises an elastomeric polymer, such as a polyester, polyurethane, polyamide, an A-B-A' block copolymer or an ethylene/vinyl copolymers, and is a web of melt-blown fibres and microfibres. A tackifying resin, and processing aids may also be incorporated. The necked material can be a knitted or base-woven fabric, or may be non-woven or a composite material such as wood pulp, staple fibres or super absorbant materials. The non-woven material is a web such as a bonded carded fibre. spunbonded fibre or melt-blown fibre web, or a multilayer material contg. such a web. More specifically, the fibres are polymers e.g. polyolefins, polyesters or polyamides, and most preferably are polypropylene fibres.

USE/ADVANTAGE - The current invention provides a non-rubbery elastic material which can be produced inexpensively for use in diapers, tissues, wipes, garments, etc., and can stretch in at least 2 directions.

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FS CPI GMPI

FA AB

MC CPI: A12-V03A; D09-C03; D09-C05; F02-C01; G03-B01; G03-B02

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L6 ANSWER 1 OF 1 WPIX (C) 2002 THOMSON DERWENT

AN 1994-209540 [26] WPIX

DNN N1994-165011

TI Multi-layered elastic surface construction - comprises at least one rubber-elastic layer of homogeneous film or foil and at least one fibre or filament inelastic layer joined to film or foil layer at spaced connecting points.

DC P73

IN BOICH, H; WEHRLE, M; COLES, P; SOON, S; TAMER, A A; TAMER, A

PA (CORO-N) COROVIN GMBH

CYC 44

PI DE 4243012 A1 19940623 (199426)* 8p B32B025-10

WO 9414607 A1 19940707 (199428) DE 30p B32B005-24

RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE

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US 5683787 A 19971104 (199750) 8p B32B009-00

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CA 2150366 C 19990420 (199934) EN B32B005-04

BR 9307673 A 19990908 (200003) B32B005-24

HU 217315 B 19991228 (200010) B32B005-24

CZ 286891 B6 20000712 (200040) B32B005-24

FI 107594 B1 20010914 (200157) B32B005-24

ADT DE 4243012 A1 DE 1992-4243012 19921218; WO 9414607 A1 WO 1993-DE1177 19931208; AU 9456922 A AU 1994-56922 19931208; NO 9502421 A WO 1993-DE1177 19931208, NO 1995-2421 19950616; FI 9502983 A WO 1993-DE1177 19931208, FI 1995-2983 19950616; EP 674581 A1 WO 1993-DE1177 19931208, EP 1994-902600 19931208; CZ 9501395 A3 CZ 1995-1395 19931208; EP 674581 B1 WO 1993-DE1177 19931208, EP 1994-902600 19931208; DE 59302850 G DE 1993-502850 19931208, WO 1993-DE1177 19931208, EP 1994-902600 19931208; ES 2089908 T3 EP 1994-902600 19931208; JP 08504693 W WO 1993-DE1177 19931208, JP 1994-514668 19931208; DE 4243012 C2 DE 1992-4243012 19921218; HU 72562 T WO 1993-DE1177 19931208, HU 1995-1759 19931208; US 5683787 A WO 1993-DE1177 19931208, US 1995-454384 19950801; NO 302458 B1 WO 1993-DE1177 19931208, NO 1995-2421 19950616; CA 2150366 C CA 1993-2150366 19931208, WO 1993-DE1177 19931208; BR 9307673 A BR 1993-7673 19931208, WO 1993-DE1177 19931208; HU 217315 B WO 1993-DE1177 19931208, HU 1995-1759 19931208; CZ 286891 B6 WO 1993-DE1177 19931208, CZ 1995-1395 19931208; FI 107594 B1 WO 1993-DE1177 19931208, FI 1995-2983 19950616

FDT AU 9456922 A Based on WO 9414607; EP 674581 A1 Based on WO 9414607; EP 674581 B1 Based on WO 9414607; DE 59302850 G Based on EP 674581, Based on WO 9414607; ES 2089908 T3 Based on EP 674581; JP 08504693 W Based on WO 9414607; HU 72562 T Based on WO 9414607; US 5683787 A Based on WO 9414607; NO 302458 B1 Previous Publ. NO 9502421; CA 2150366 C Based on WO 9414607; BR 9307673 A Based on WO 9414607; HU 217315 B Previous Publ. HU 72562,

Based on WO 9414607; CZ 286891 B6 Previous Publ. CZ 9501395, Based on WO 9414607; FI 107594 B1 Previous Publ. FI 9502983
PRAI DE 1992-4243012 19921218
REP EP 217032; EP 321980; US 4446189; US 4741944; US 4863779; US 4935287
IC ICM B32B000-00; B32B005-04; B32B005-24; B32B009-00; B32B025-10
ICS A61F013-46; B32B003-24; B32B003-28; B32B007-02; B32B007-04;
B32B007-14; B32B031-08; D04H013-00
AB DE 4243012 A UPAB: 19940817

The two layers (10,12) of the construction are joined to each other at spaced connecting points, the connection being by melting or adhesion of an adhesion layer between them. With melting, a shape-conformable connection is made, whilst in the case of an adhesive connection a powerful connection is made, which can develop extremely high binding forces.

The inelastic fibre or filament layer comprises an originally smooth, unstretched or partly stretched material. At the connecting points it is melted with the slackened rubber-elastic layer or is adhered and after common expansion has a lasting expansion with the latter.

ADVANTAGE - The surface construction allows for complete fluid impermeability or a controlled permeability.

Dwg.1/5

FS GMPI
FA AB; GI

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